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### A NEW SPECIES OF *CULICOIDES* FROM COLOMBIA

(DIPTERA: CERATOPOGONIDAE)<sup>1</sup>

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ABSTRACT—This paper describes *Culicoides florenciae* n. sp. of the *debilipalpis* gp. It was collected near Florencia, Colombia, on the eastern slope of the eastern Andes by the Rio Hacha at 1000 m elevation. A comparison with closely related species is included.

While on a collecting trip in Colombia in August and September, 1969, I came upon a site on the eastern side of the Eastern Cordillera of the Andes which yielded an apparently new species of *Culicoides* of the *debilipalpis* group. The type habitat is the sandy bank of the Rio Hacha, a river which flows down the eastern side of the Eastern Andes and eventually empties into the Rio Ortegusa, a tributary of the Rio Caqueta. The collecting site was at about 1000 m elevation not far from the Garzón-Florencia road in the province of Caqueta. This is a densely forested, but inhabited region, containing typically amazonian vegetation.

While crossing a footbridge over the river, I became aware of these insects because of their painful bites. Upon descending to the river bank I was able to collect specimens from my exposed arms with an aspirator. The time of day was about 1500 on September 2, 1969. All specimens were feeding or beginning to feed when captured. They were preserved in 70% ethyl alcohol and later mounted on slides using the technique of Wirth and Blanton (1959).

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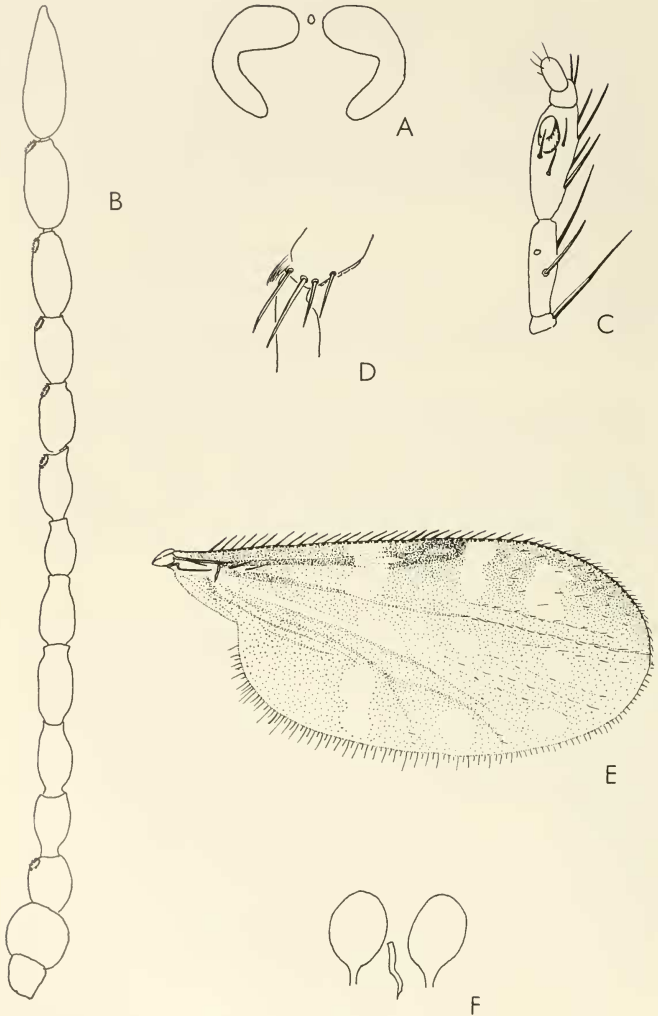


Fig. 1. *Culicoides florenciae*, n. sp., female: a, eye separation; b, antenna; c, palpus; d, tibial comb; e, wing; f, spermathecae.

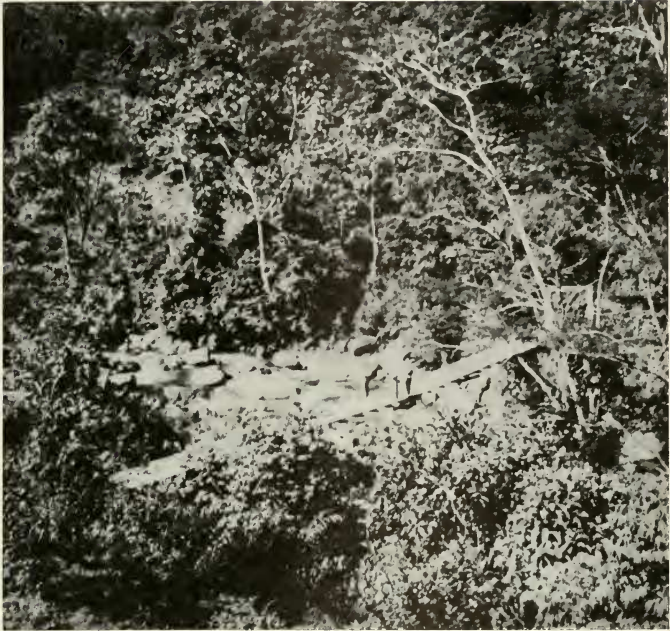


Fig. 2. Collection site of *Culicoides florenciae*, n. sp. on the Rio Hacha near Florencia, Colombia. Photo by Mary Kilbourne.

***Culicoides florenciae* Messersmith, n. sp.**

(Fig. 1)

*Female*.—Length of wing 1.05 mm.

Head: Eyes (fig. 1a) broadly separated. Antenna (fig. 1b) with lengths of flagellar segments in proportion of 23–24–27–30–30–28–28–30–28–31–35–34–50; AR 0.81; no sharp increase in lengths of segments in distal series except for terminal segment; distal sensory tufts prominent, located on segments 3, 10–14. Palpal segments (fig. 1c) with lengths in proportion 12–35–43–16–17, PR 2.7; third segment moderately swollen, with a deep, round sensory pit, with pit deeper than diameter of round pore opening. Proboscis moderately long, P/H ratio 0.97; mandible with 18 teeth.

Thorax: Brownish with no conspicuous pattern. Legs brownish, with pale band near the proximal end of the tibia on all legs, distal end of hind tibiae slightly paler than rest of leg; hind tibial comb with four spines, the second from the spur longest (fig. 1d).

Wing (fig. 1e): Pattern as figured; distal pale spot in cell R5 transverse, the

Table 1. A comparison of key characters of some selected species of the *Culicoides debilipalpis* group.\*

Species	Wing length	CR	AR	Sensoria	Teeth	Spines
<i>florenciae</i>	1.05	0.56	0.81	3, 10-14	18	4
<i>eadi</i>	0.81	0.57	0.78	3, 8-10	15	4
<i>darlingtonae</i>	0.86	0.61	0.86	3, 8-10	16	4
<i>guerrai</i>	0.95	0.62	0.83	3, 8-10	15	4
<i>caucaensis</i>	1.83	0.65	0.99	3, 9-14	20	4
<i>tamboensis</i>	1.23	0.61	0.85	3, 11-14	11	4

\* See Wirth and Blanton (1959), p. 262 for other species characteristics.

poststigmatic pale spot constricted in the middle, but not separated; pale spot in anal cell transverse; distinct pale spots present behind medial fork and in front of mediocubital fork. CR 0.56; second radial cell narrow, but with distinct lumen; macrotrichia more numerous on distal half of wing than on basal half and in parallel rows bordering the medial fork. Halter pale. Rudimentary spermatheca present.

Abdomen: Dark brown. Spermathecae (fig. 1f) subequal, measuring 0.044 by 0.026 mm. and 0.045 by 0.029 mm.

*Male*.—Unknown

*Distribution*.—Colombia

*Types*.—Holotype female, Rio Hacha, Eastern Andes at 1000 m near Florencia, Caqueta, Colombia, 2 September 1969, Donald H. Messersmith (Type no. 71147 USNM). Paratypes 10 females, same data.

*Discussion*.—This species differs from all other members of the neotropical *debilipalpis* group and indeed from most nearby Panamanian *Culicoides* in having sensoria on segments 10-14. Only two Panama species (*C. patulipalpis* and *C. rangeli*) have sensoria so arranged (Wirth and Blanton, 1959), but these have only one spermatheca. Two Colombian species from the Andes described by Wirth and Lee (1967) show close affinities to *C. florenciae*. They are *C. caucaensis* which has sensoria on segments 3, 9-14 and *C. tamboensis* with sensoria on segments 3, 11-14. Both of these have two spermathecae and a rudimentary third, their wing patterns are similar to *C. florenciae* in some respects, but they are definitely not the same in wing length and other features. However, the wing of *C. florenciae* is longer than in others of the *debilipalpis* group and longer than the wings of *transferrans* group species. The CR and AR are also different from others in these groups. This species appears to be closely related to *C. darlingtonae* Wirth and Blanton (1971), because of its wing pattern. However, the poststigmatic pale spot is not divided, and the pale spot enclosed by

the cubital fork does not touch  $M_{3+4}$ . The third papal segment is not as swollen. The spermathecae are more equal in size to one another than in *darlingtonae*. Table 1 compares this new species with Wirth and Blanton's new *debilipalpis* group species and with the two closely related Colombian species from the Andes.

I wish to express my appreciation to Dr. Willis W. Wirth for his advice and suggestions in the preparation of this paper and to Dr. F. Eugene Wood for making the drawings. Mrs. Mary Kilbourne took the photograph (fig. 2) and gave permission to use it for which I am grateful.

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### SAWFLIES OF THE GENUS *CROESUS* LEACH IN NORTH AMERICA (HYMENOPTERA: TENTHREDINIDAE)

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ABSTRACT—Adults and larvae of the four North American species of *Croesus* are keyed, described, and illustrated. One new species, *C. curvarius*, is described. The larvae are external feeders on the foliage of *Betula*, *Alnus*, *Castanea*, and *Corylus*.

The genus *Croesus* is a small group of holarctic sawflies characterized by the conspicuous, flattened hindbasitarsus and hindtarsus. Few sawflies have such an obvious spot character for separation. Larvae of *Croesus* are more commonly encountered than adults because, as in most sawflies, of their noticeable feeding habits. They feed externally on the foliage of *Betula*, *Corylus*, *Alnus*, and *Castanea* in North America, and, in Europe, other species have been found on *Acer*, *Carpinus*, *Fraxinus*, *Populus*, *Salix*, and *Sorbus* (Benson, 1958).

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